

Lab Assignment



Cybersecurity Professional Program
Introduction to Python
for Security

Functions

PY-05-L5

Bullseye



Lab Objective

Get familiar with the ***random*** module and implement function separation and execution checks.



Lab Mission

Create a game in which the user guesses a random number and receives the correct answer.



Lab Duration

15–25 minutes



Requirements

- Basic knowledge of Python
- Working knowledge of variables and functions



Resources

- Environment & Tools
 - Windows, macOS, or Linux
 - PyCharm
 - Python 3



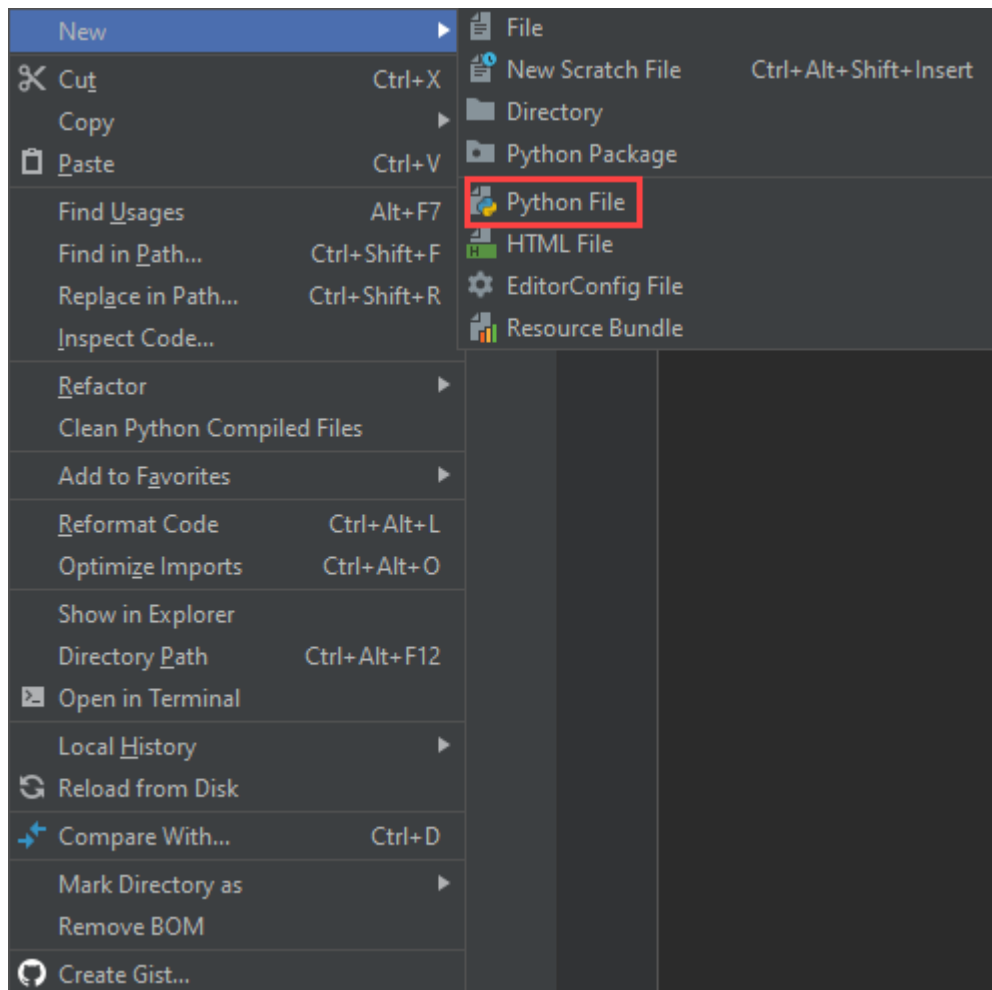
Textbook References

- Chapter 5: Functions
 - Section 2: Code Handling

Lab Task: Random Number Generation with Python

Create two functions that allow the implementation of random number generation and comparison with the user's input.

- 1 Create a new Python file in PyCharm by right-clicking the project you created and selecting **New > Python File**.



- 2 Import the *random* module.

```
import random
```

- 3 Define a function that generates a random number.

```
def generate_random():
```

- 4 In the function, save a random integer between 1 and 10 to a variable and have the function return it.

```
def generate_random():  
    number = random.randint(1, 10)  
    return number
```

- 5 Create another function to be the main function.

```
def main():
```

- 6 The function requests a number from the user and parses it to an integer.

```
def main():  
    guessed_number = int(input("Please select a number between 1 and 10: "))
```

- 7 Invoke the first function and save the random number result to a variable in the function.

```
def main():  
    guessed_number = int(input("Please select a number between 1 and 10: "))  
    random_number = generate_random()
```

- 8 Create a condition that checks if the user's number equals the random number and prints a "successful" message in the function.

```
def main():  
    guessed_number = int(input("Please select a number between 1 and 10: "))  
    random_number = generate_random()  
    if guessed_number == random_number:  
        print("Successful Guess!")
```

- 9** If the numbers do not match, print an “unsuccessful” message.

```
def main():
    guessed_number = int(input("Please select a number between 1 and 10: "))
    random_number = generate_random()
    if guessed_number == random_number:
        print("Successful Guess!")
    else:
        print("Unsuccessful Guess!")
```

- 10** Outside of the function, create a condition that runs the program only if the file is executed directly.

```
if __name__ == "__main__":
    main()
```